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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/614,371	07/12/2000	Maximilian Luttrell	PVC-P-99-002	2250

7590 04/05/2005

Patents + TMS  
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EXAMINER

NGUYEN, MINH DIEU T

ART UNIT	PAPER NUMBER
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2137

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/614,371	<b>Applicant(s)</b> LUTTRELL ET AL.	
	<b>Examiner</b> Minh Dieu Nguyen	<b>Art Unit</b> 2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-26 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 10-14, 16 and 19 is/are rejected.
- 7) ☒ Claim(s) 5, 7-9, 15, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is in response to the amendment dated November 26, 2004 with the amendment to the specification, to claims 1 and 12 and the addition of new claims 20-26.

Claims 1-26 are pending.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection. Applicant's arguments focus on the combination of features introduced by the amendment with elements that already existed in the claims. The new material is rendered obvious by Isnardi (6,687,384), Shur (6,330,672), Tewfik et al. (6,226,387), Heinzelman et al. (6,754,277) and Zhu (5,821,887).
3. Applicant argues that Zhu (5,821,887) fails to teach the original codewords have a triplet form and wherein final codewords have a LAST coefficient = 1.

Examiner maintains that Zhu discloses H.263 standard employing fixed Huffman tables for encoding what is calls "events" with 3 tuple defined as (LAST, RUN, LEVEL) with the LAST is a nonzero coefficient indication (col. 7, lines 50-56). LAST parameter is a nonzero coefficient indication would read on LAST coefficient = 1 as claimed.

4. In the REMARKS section, on the last line of page 16, applicant states claims 13-19 depend from claim 12, however claim 14 indicates that it depends on claim 1.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 10-12, 14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isnardi (6,687,384) in view of Shur (6,330,672).

a) As to claims 1 and 12, Isnardi discloses a method and apparatus for embedding data in encoded digital bitstreams comprising: providing a compressed bitstream (Fig. 4; col. 7, lines 58-60); identifying locations in the bitstream for embedding data into the bitstream (col. 8, lines 19-21) and replacing original codewords in the bitstream with alternate codewords having embedded data bits (col. 8, lines 21-25).

Shur discloses extracting a plurality of data bits (col. 11, lines 12-13) and producing embedded encrypting data bits based on the plurality of data bits from the bitstream (col. 8, lines 62-63).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the use of extracting a plurality of data bits (i.e. watermark data)

and embedding the encrypted plurality of data bits from the bitstream in the system of Isnardi, as Shur teaches so as to protect digital information.

b) As to claim 10, Isnardi discloses the method wherein the bitstream is compliant with international standards (col. 1, lines 41-52; col. 3, lines 64-67 to col. 4, lines 1-4).

c) As to claim 11, Isnardi discloses the method wherein the bitstream is a video bitstream (Fig. 4).

d) As to claim 14, Isnardi discloses the system wherein the bitstream has final codewords and wherein locations in the bitstream for embedding data into the bitstream correspond to the final codewords in the bitstream (col. 8, lines 15-67).

e) As to claim 19, Isnardi discloses the system wherein the compressed bitstream corresponds to a compressed video bitstream (Fig. 8, element 320).

7. Claims 2-3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isnardi (6,687,384) in view of Shur (6,330,672) and further in view of Tewfik et al. (6,226,387).

Isnardi discloses the compressed MPEG bitstream including MPEG-1 and/or MPEG-2 and/or subsequent MPEG standards (col. 4, lines 3-4), in MPEG-2, the spatial scalability is already standardized.

Tewfik discloses a method and apparatus for the scene-based watermarking of video data using spatial and temporal properties for embedding watermark (col. 6, line 62 to col. 7 line 23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the spatial and temporal for embedding data bits, as Tewfik teaches, in the system of Isnardi and Shur, so as to make embedding watermark invisible and robust.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Isnardi (6,687,384) in view of Shur (6,330,672) in view of Tewfik et al. (6,226,387) and further in view of Heinzelman et al. (6,754,277).

Tewfik discloses using spatial and temporal properties for embedding data bits. However he does not disclose an error resilience decoder for reliably recovering embedding data bits if the bitstream is subject to errors during transmission.

Heinzelman discloses error resilience tools in MPEG-4 compressed video bitstream (col. 1, lines 53-57; col. 8, lines 25-43).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ error resilience decoder for recovering reliably embedding data bits in the system of Isnardi, Shur and Tewfik, as Heinzelman teaches so as to effectively provide acceptable quality at the decoder.

9. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isnardi (6,687,384) in view of Shur (6,330,672) and further in view of Zhu (5,821,887).

Isnardi and Shur do not disclose the original codewords have a triplet form and wherein final codewords have a LAST coefficient = 1.

Zhu discloses H.263 standard employing fixed Huffman tables for encoding what is calls "events" with 3 tuple defined as (LAST, RUN, LEVEL) with the LAST is a nonzero coefficient indication (col. 7, lines 50-56).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the triplet form of event, as Zhu teaches, in the system of Isnardi and Shur, so as to make efficient usage of memory.

### ***Allowable Subject Matter***

10. Claims 5, 7-9, 15, 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The new added claims 20-26 are allowed. These claims contain limitations of objected claims 5, 7-9, 15 and 17-18. The reason for allowance is addressed in above claims 5, 7-9, 15 and 17-18.

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

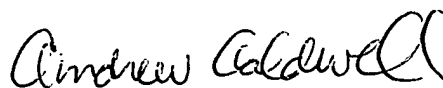
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu Nguyen whose telephone number is 571-272-3873. The examiner can normally be reached on M-F 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Minh Dieu Nguyen  
Examiner  
Art Unit 2137

mdn  
3/31/05



**ANDREW CALDWELL**  
**SUPERVISORY PATENT EXAMINER**